

 **YORK**<sup>®</sup>  
INSTALL CONFIDENCE



YORK<sup>®</sup> YK-EP "EFFICIENCY PLUS" CENTRIFUGAL CHILLERS  
Reduce ownership costs  
in large chilled water plants



# Reduce your energy consumption

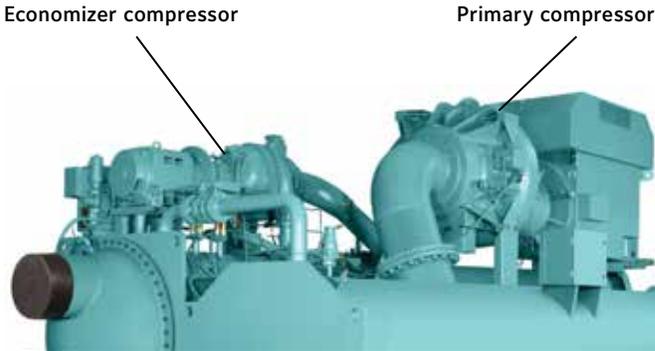
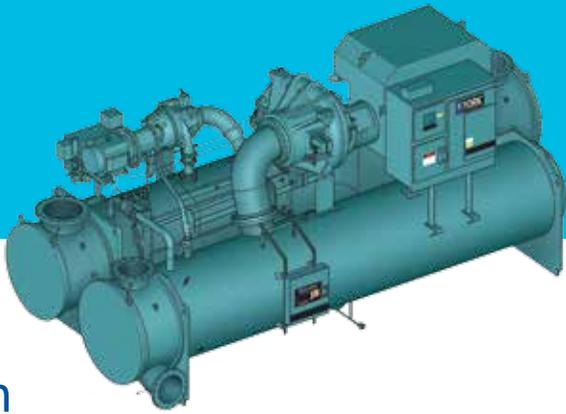
The YORK® YK-EP "Efficiency Plus" chiller combines a capacity range of 2,500 to 3,500 TR (8,800 to 12,300 kW) with a patent-pending, mechanical-compression economizer cycle. This economizer cycle delivers industry-leading efficiency at design conditions, particularly at severe duty.

At off-design conditions (lower loads and/or lower entering condenser water temperatures), the YK-EP "Efficiency Plus" chiller offers significantly higher energy savings. That's critically important because 99 percent of chiller operating hours are spent at off-design conditions.

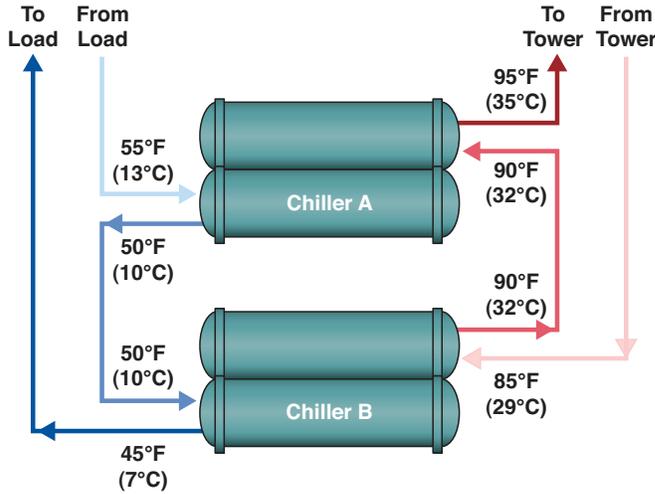
Compared to chillers that can only use a minimum 75°F (24°C) entering condenser water temperatures (ECWT), a YK-EP "Efficiency Plus" chiller can operate with ECWT as low as 55°F (13°C). This reduces instantaneous energy consumption as much as 50 percent. Adding a YORK OptiSpeed™ variable speed drive can trim average annual energy consumption up to 30 percent.

In a facility with multiple chillers, you'll achieve greater savings by piping them in a series-counterflow arrangement. This reduces the compressor work needed on each chiller, cutting system energy use by as much as 8 percent at design conditions.

We can optimize your entire central plant – chillers, towers, pumps, variable speed drives – with Central Plant Optimization™. This can reduce total plant energy consumption by another 30 percent.



A unique configuration, coupling the primary compressor with an economizer compressor, makes the YK-EP "Efficiency Plus" chiller more efficient than single-stage chillers.



In a series-counterflow piping arrangement, Chiller A sees warmer entering condenser water and warmer leaving chilled water. Chiller B sees colder entering condenser water and cooler leaving chilled water. This reduces compressor head on each chiller, cutting system energy use by as much as 8% compared to a parallel piping arrangement.

## Control the total cost of ownership

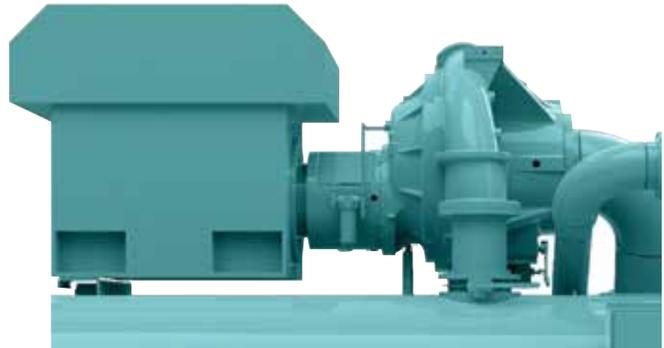
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For starters, an OptiSpeed™ drive, with its ability to accept medium or high-voltage power (up to 13,800 volts) enables the chiller to deliver maximum efficiency at a lower installed cost. That's because the higher voltage reduces power distribution losses and minimizes voltage-transformer capacity and cable size.

Rather than shipping in three pieces and re-assembling on the job site, you can cut installation costs even more by choosing to ship the chiller as a single piece. It's protected with an industrial-grade, reinforced shrink-wrapped covering.

The two compressor drivelines utilize open motors that also reduce maintenance costs. Open-motor drivelines mean less downtime – if a motor failure occurs, the chiller can be brought back online quickly and cost-effectively. This is especially important in large plants that have a high cooling demand and can't afford downtime.

The YK-EP "Efficiency Plus" chiller offers optional features resulting in greater chiller reliability and less costly maintenance procedures. Alternate tube materials and thicknesses meet even the most challenging job requirements.



Open-motor drivelines mean less downtime – if a motor failure occurs, the chiller can be brought back online much faster and at a reduced cost.



Hinged waterboxes on the heat exchanger shells can cut ownership costs by reducing the time and cost of annual tube cleaning.

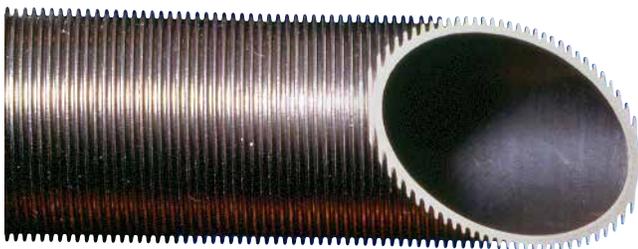
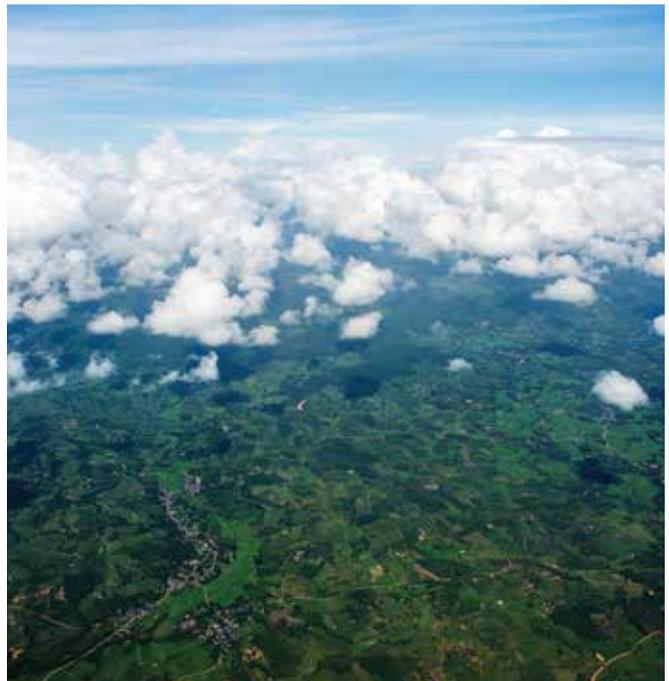
## Improve the sustainability of your plant and the planet

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The YK-EP "Efficiency Plus" chiller will make your chiller plant more sustainable. It enables plant owners to use energy, refrigerant and water in an environmentally responsible way.

HFC-134a refrigerant has zero ozone-depleting potential and no phase-out date. The total global warming impact is low because the chiller's high efficiency reduces the indirect effect from greenhouse gas emissions produced by the local utility to power the chiller. Reducing the indirect effect is significant. It can account for 95 percent of the total global-warming impact of a chiller.

Where water is scarce or has a high cost, other sources for heat rejection can be used on the YK-EP "Efficiency Plus," including river or seawater. It can be customized by using alternative tube materials, or by coating or cladding the heat-exchanger endsheets or by coating the waterboxes.



The titanium tube shown above offers high resistance to erosion and corrosion for facilities using alternate water sources for heat rejection. Titanium is just one of the tube materials available to meet the specialized needs of large chilled water plants.

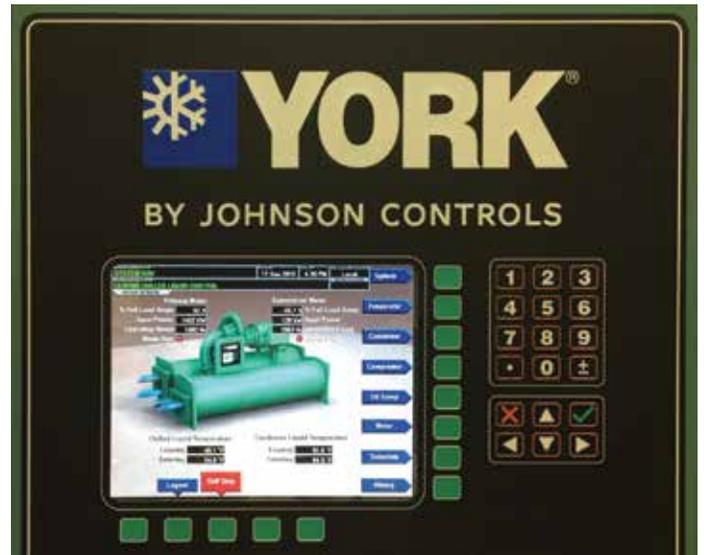
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## Simple control, maximum reliability

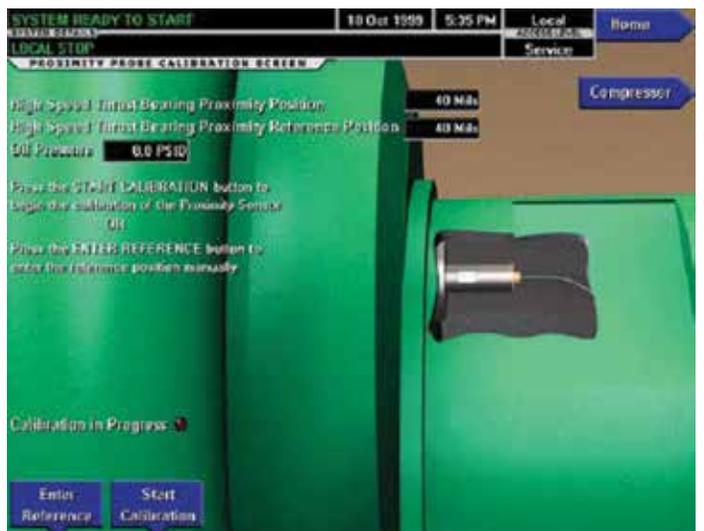
Very large chiller applications manage a lot of information. But this is simplified with the YK-EP "Efficiency Plus" chiller thanks to advanced control technology and industrial components that ensure reliable performance.

The full-color OptiView™ Control Center gives you expert control management combining state-of-the-art control logic, industrial-grade hardware, and a fingertip-activated control display designed with the chiller operator in mind. Operation is practically foolproof. Data and parameters are automatically saved on a flash memory card – no battery backup is required. Data outputs are completely described with illustrations of the appropriate chiller components. Native Metasys® compatibility and an ELink communication card simplify BAS and control-system integration. And you get full monitoring and trending capabilities, plus the flexibility to select parameters critical for your operation.

Johnson Controls has the industry's largest service and preventive maintenance organization worldwide – high-quality professionals with the training and experience to keep you up and running.



The OptiView Control Center provides convenient, full-color control and monitoring capabilities with the touch of a fingertip.



Gear-shaft proximity probe provides a monitoring capability for ultimate assurance of drive line reliability.

## Why install anything but YORK?

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You want high performance. You expect efficiency. And you need a chiller that gives you confidence. When it's your reputation at stake, demand nothing less than YORK.

To learn more about the YK-EP "Efficiency Plus" chiller and how it can help you meet your chiller plant goals, visit our website, [johnsoncontrols.com](http://johnsoncontrols.com), or contact your nearest Johnson Controls branch office.



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